The Value of Green Infrastructure

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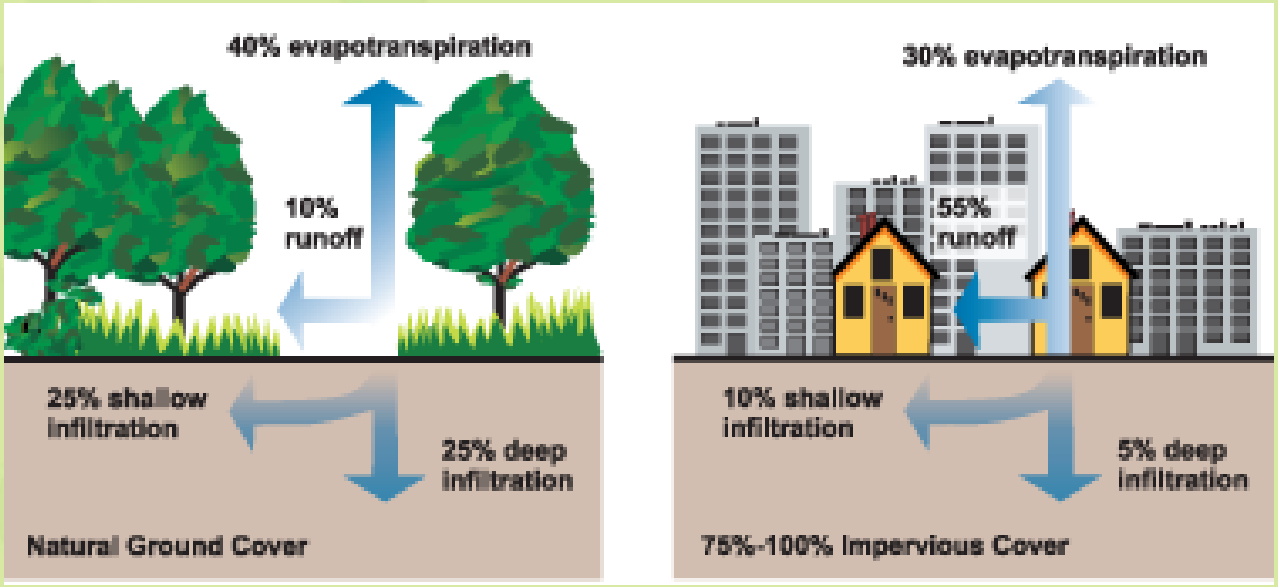
Center for Neighborhood Technology (CNT)

- A “think and do” tank for urban sustainability
- Develop & implement strategies that benefit the environment & the economy
- Program Areas:
  - Transportation & Community Development
  - Energy
  - Water
  - Climate

Why Stormwater Infrastructure?

Hydrology has Changed with Urbanization

Infiltration:
More than 90% with natural ground cover…



…but less than 10% in dense urban areas

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Conventional SW Infrastructure

- Capital intensive
- Disruptive
- Depreciates over time
- Requires repair, maintenance, and replacement
- Single use and single benefit

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Green Infrastructure (GI)

"Infrastructure – the substructure of underlying foundation…on which the continuance and growth of a community or state depends"

- Webster's New World Dictionary

Philadelphia, PA

Chicago, IL

Portland, OR

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Green Infrastructure Pilots

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Green Values Calculator

GREEN VALUES STORMWATER TOOLBOX

GREEN VALUES®
NATIONAL STORMWATER MANAGEMENT CALCULATOR

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CALCULATOR

DISPLAY PRINTABLE FORMAT | CREATE A PERMANENT LINK | RESET VALUES

Getting Started | Lot Information | Predevelopment | Runoff Reduction Goal | Conventional Development | Green Improvements | Advanced Options

Getting Started

The National Green Values™ Calculator is a tool for quickly comparing the performance, costs, and benefits of Green Infrastructure, or Low Impact Development (LID), to conventional stormwater practices. The GVC is designed to take you step-by-step through a process of determining the average precipitation at your site, choosing a stormwater runoff volume reduction goal, defining the impervious areas of your site under a conventional development scheme, and then choosing from a range of Green Infrastructure Best Management Practices (BMPs) to find the combination that meets the necessary runoff volume reduction goal in a cost-effective way.

EPA Smart Growth

A few important points to keep in mind:

- The National GVC is currently focused on runoff volume reduction. It does not produce any peak flow results. Volume reduction in this context implies infiltration, evapotranspiration and reuse, and does not include detention in ponds or vaults. All runoff volume captured in BMPs is assumed to be kept on site.
- The National GVC is meant for a single site or a campus of buildings contained on a single site. If you are interested in looking at the performance and cost/benefit analysis of Green Infrastructure BMPs applied on a neighborhood or watershed scale, consider using the original GVC and/or some of the other stormwater tools provided below.

Available Online at: *www.greenvalues.cnt.org*

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Green Infrastructure Benefits and Practices

This section, while not providing a comprehensive list of green infrastructure practices, describes the five GI practices that are the focus of this guide and examines the breadth of benefits this type of infrastructure can offer. The following matrix is an illustrative summary of how these practices can produce different combinations of benefits. Please note that these benefits accrue at varying scales according to local factors such as climate and population.

Benefit	Reduces Stormwater Runoff				Increases Available Water Supply	Increases Groundwater Recharge	Reduces Salt Use	Reduces Energy Use	Improves Air Quality	Reduces Atmospheric CO_2	Reduces Urban Heat Island	Improves Community Livability					Improves Habitat	Cultivates Public Education Opportunities
	Reduces Water Treatment Needs	Improves Water Quality	Reduces Grey Infrastructure Needs	Reduces Flooding								Improves Aesthetics	Increases Recreational Opportunity	Reduces Noise Pollution	Improves Community Cohesion	Urban Agriculture		
Practice										CO_2								
Green Roofs	●	●	●	●	○	○	○	●	●	●	●	●	◒	●	◒	◒	●	●
Tree Planting	●	●	●	●	○	◒	○	●	●	●	●	●	●	●	●	◒	●	●
Bioretention & Infiltration	●	●	●	●	◒	◒	○	○	●	●	●	●	●	◒	◒	○	●	●
Permeable Pavement	●	●	●	●	○	◒	●	◒	●	●	●	○	○	●	○	○	○	●
Water Harvesting	●	●	●	●	●	◒	○	◒	◒	◒	○	○	○	○	○	○	○	●

● Yes ◒ Maybe ○ No

“You can’t tailgate or barbecue inside a deep tunnel.”

- Mayor Tom Barrett, Milwaukee, WI

www.TravelWisconsin.com

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Thank You!

More information:

www.cnt.org and

http://www.cnt.org/repository/gi-values-guide.pdf

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